



Sunnyside Water Quality Update Fall 2004 Sampling Event

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The Sunnyside monitoring project began in 2002 as a result of citizen concerns of possible ground water contamination in the area surrounding a confined animal feeding operation and onion disposal site. The site is approximately 2 miles south of Weiser, Idaho. Local ground water flow is towards the Snake River. Sampling events occur bi-annually in the spring and fall with a focus on nitrate in ground water.

In November 2004, 54% of the wells sampled exceeded the EPA drinking water standard of 10 mg/L for nitrate with a maximum concentration of 38 mg/L (Table 1). Areas having the highest nitrate concentrations are upgradient and downgradient of the feedlot (Figure 1). Land application areas exist upgradient of the feedlot.

Table 1. Nitrate concentration distribution in ground water, Fall 2004. The EPA drinking water health standard for nitrate in ground water is 10 mg/L.

Concentration Range (mg/L)	Fall 2004	Nitrate Concentration Statistics Fall 2004	
	# wells (% wells)		
0.0 to 10.0	17 (46%)	Mean	13.8 mg/L
> 10.0	20 (54%)	Median	11.0 mg/L
Total	37 (100%)	Maximum	38.0 mg/L

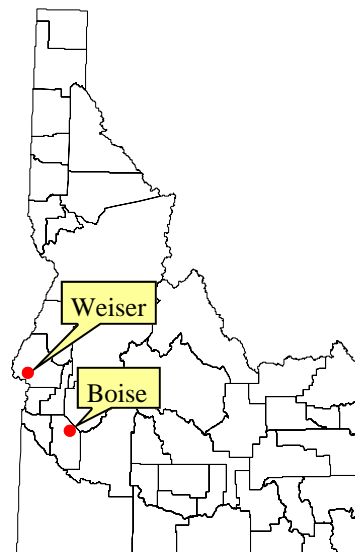
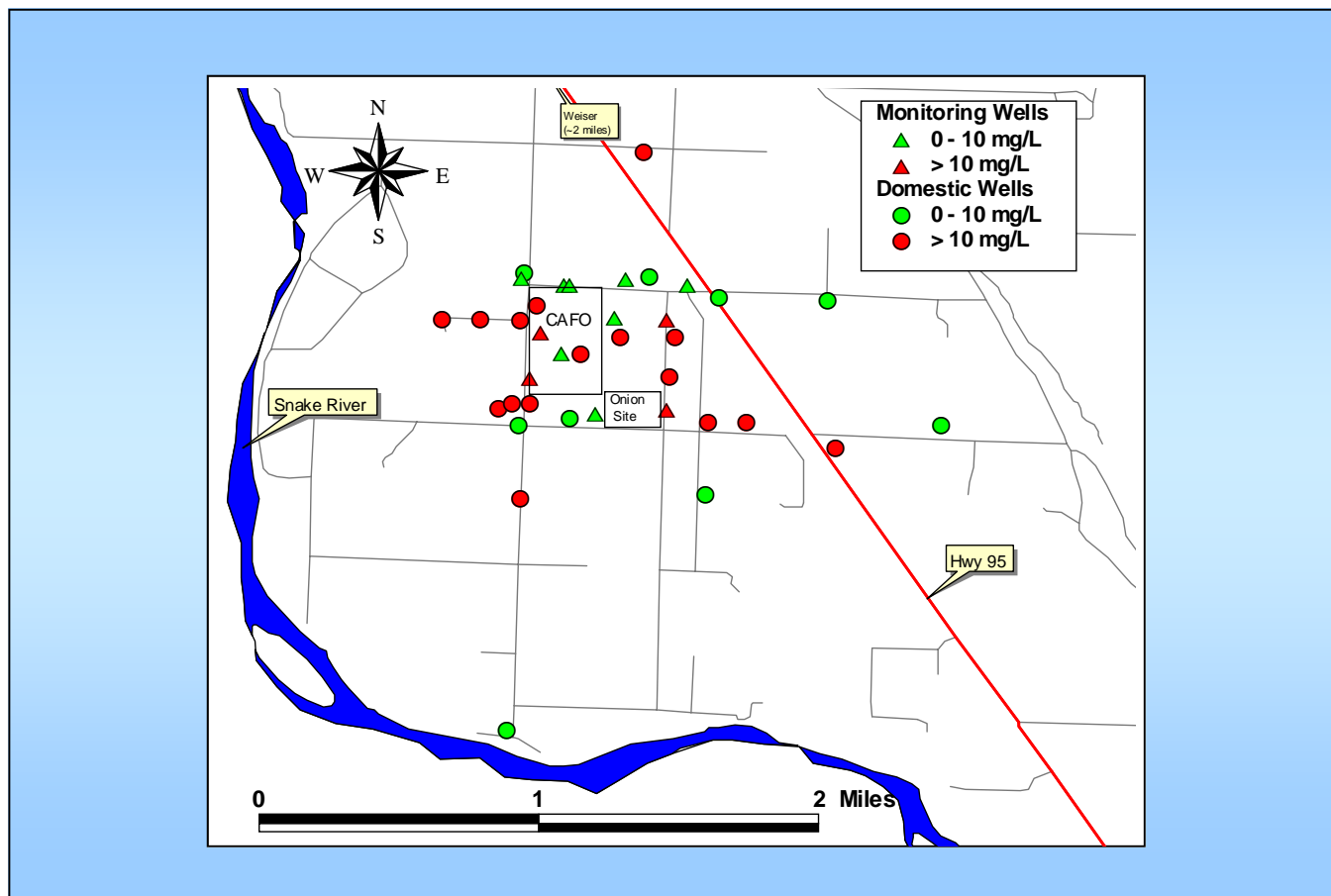


Figure 1. Nitrate Concentrations in 25 domestic and 12 monitoring wells, Fall 2004





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Twelve monitoring wells were drilled in 2004 to add sampling sites to the Sunnyside monitoring project (Figure 2). The new monitoring wells are sampled bi-annually in addition to the 25 domestic wells originally selected for monitoring. The wells were drilled through the upper aquifer, which is defined by the sand and gravel unit that lies above the extensive clay deposits of the Glens Ferry Formation. The upper aquifer varies in thickness from 15 to 35 feet with ground water encountered at depths ranging from 11 to 31 feet below ground surface (Figure 3); flow is towards the west. Ground water in the upper aquifer of the study area is highly susceptible to contamination due to (1) high transmissivity materials (sand and gravel), (2) shallow depth to ground water, and (3) lack of a clay layer, or aquitard, overlying the aquifer.

Figure 2. Monitoring Well Location Map

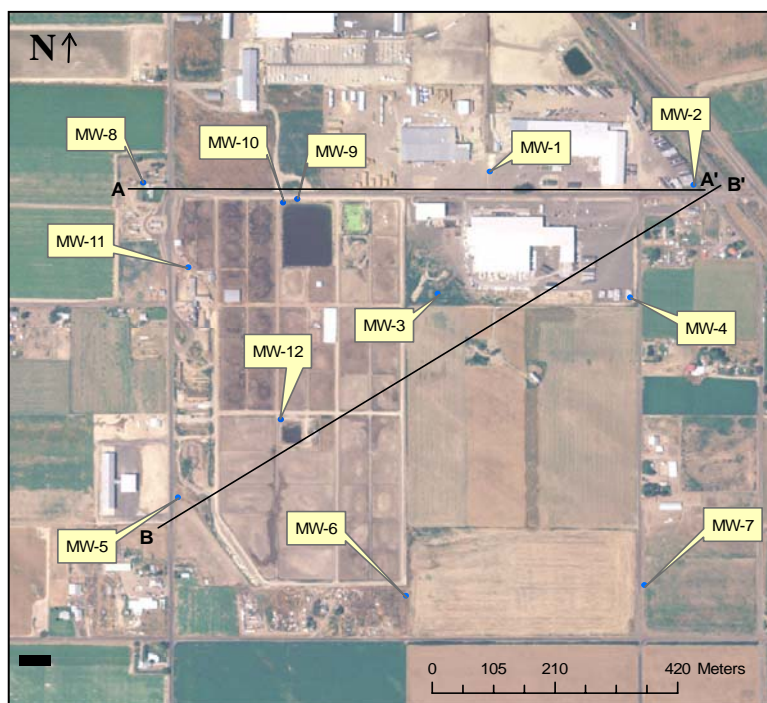


Figure 3. Geologic Cross-Section from A to A' (See location above)

